1) Given $y = x^2$

a) find all the x values that make

$y = -10$ $y = 5$

$y = -5$ $y = 10$

$y = 0$

b) find the equation of line of symmetry.

c) find the coordinates of the vertex.

2) Do the same thing for $y = x^2 + 2$.

3) Do the same thing for $y = x^2 - 7$.

4) Do . . . . . $y = 7 - x^2$.

5) Do the same thing for $y = x^2 + 2x$.

6) . . . . . $y = x^2 + 2x + 4$

7) . . . . . $y = x^2 + 2x - 4$

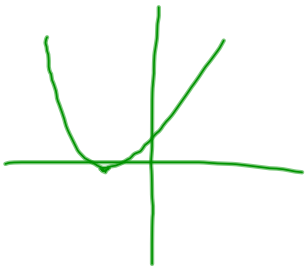
d) find the interval(s) where the function is decreasing

e) find the interval(s) where the function is increasing.

f) find the interval(s) where the function is concave up.

g) find the interval(s) where the function is concave down

h) find the pts of inflection.



$(x+2)^2$

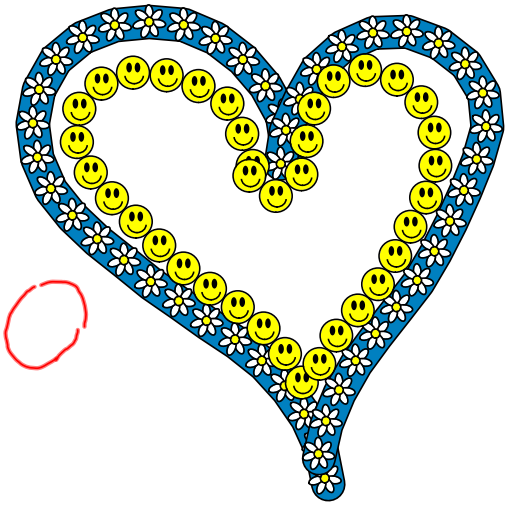
x^2+4x+4 $\cancel{4}=+4$

$2a=4$

$(x+a)^2=(x+a)(x+a)$

$x^2+4x+4=(x+2)^2$ $=x^2+(2a)x+a^2$

$\infty\infty$



$$\frac{2x^2-6x+1=0}{2}$$

$$x^2-3x+1/2=0$$

$$-1/2 \quad -1/2$$

$$x^2-3x+2.25=-1/2 \quad -\frac{2}{4}+2.25$$

$$+2.25 \quad =1.75$$

$$\frac{-3}{2} \quad (-1.5)^2 \quad (x-1.5)^2=1.75$$

$$x-1.5=\sqrt{1.75}-1.5$$

$$+1.5$$

$$x=\sqrt{1.75}+1.5$$